

EXHIBIT E



Development Full Field Economics



April 2015



Executive Summary

▪ Full Field Wet Tree Development Net Economics (30%WI)

- Based on development view of resources post Shen 3
- Assumes 100 MBOPD Spar; 16 well development
- Assumes aquifer support; no injection required

Invest (\$60/bbl)	NPV10 (\$MM)	ROR (%)	PIR10 (\$/\$)	F&D (\$/BOE)	LOE (\$/BOE)	EUR (MMBOE)	Capital (\$B)
Risked	66	11	0.08	14.39	5.17	97	1.4
Unrisked	199	13	0.16	13.97	5.29	157	2.2
Sensitivity: Upside Pricing \$85/bbl							
Risked	392	17	0.44	14.39	5.17	97	1.4
Unrisked	705	19	0.57	13.97	5.29	157	2.2

▪ Further Case Optimization

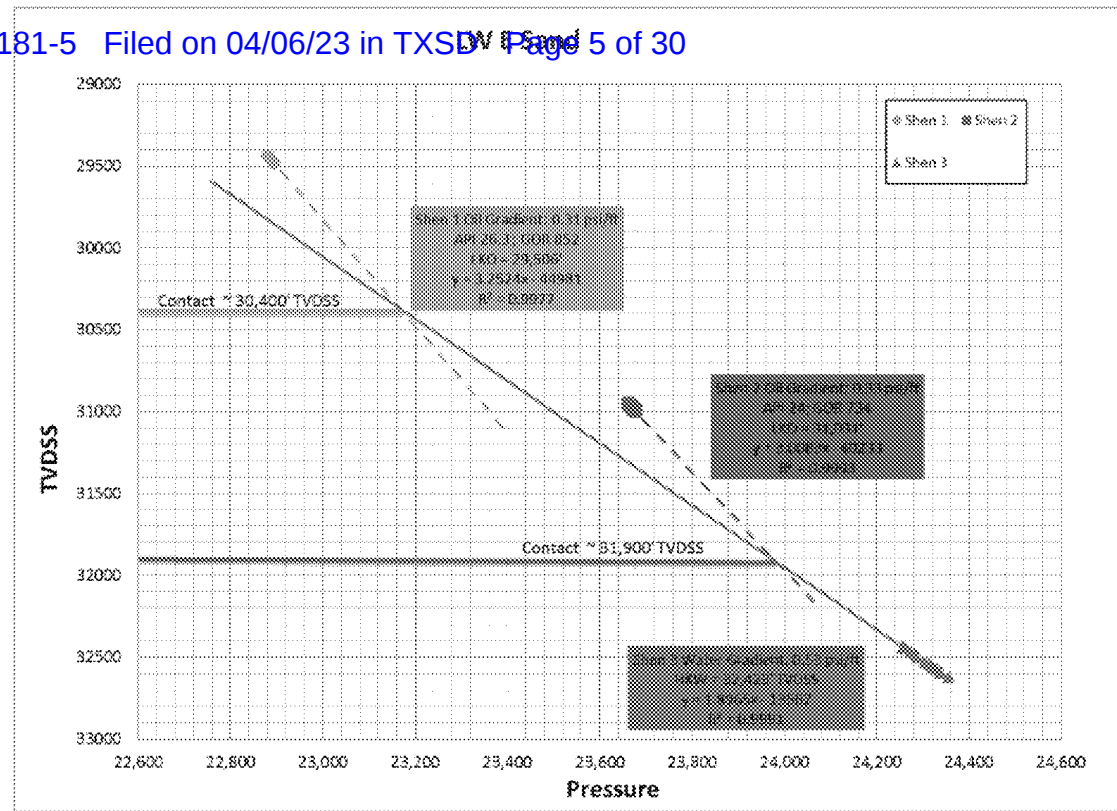
- Annual intervention cost per well → 3Q 2015 (SLOOP)
- Net pay and updated structural mapping → Late 2Q 2015
- Export → 2016
- Well/Flowline constraints → 3Q 2015
- Full field cost and timing → 3Q 2015
- Well Spacing and Well Location → 4Q 2015



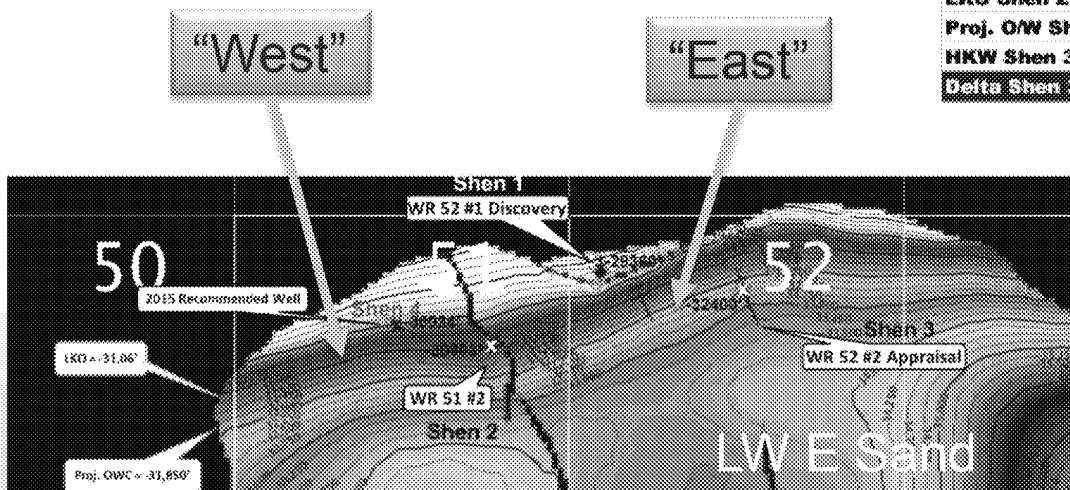
MMRA RESOURCE AND DETERMINISTIC VALIDATION

MDT Interpretations

1. Shen 3 (Blue) and Shen 2 (Maroon) projected OWCs are representative of entire structure "West" and "East".
2. Shen 3 (Blue) and Shen 2 (Maroon) projected OWCs is representative of "West" structure. Shen 3 (Blue) and Shen 1 (Orange) projected OWCs is representative of "East" structure.



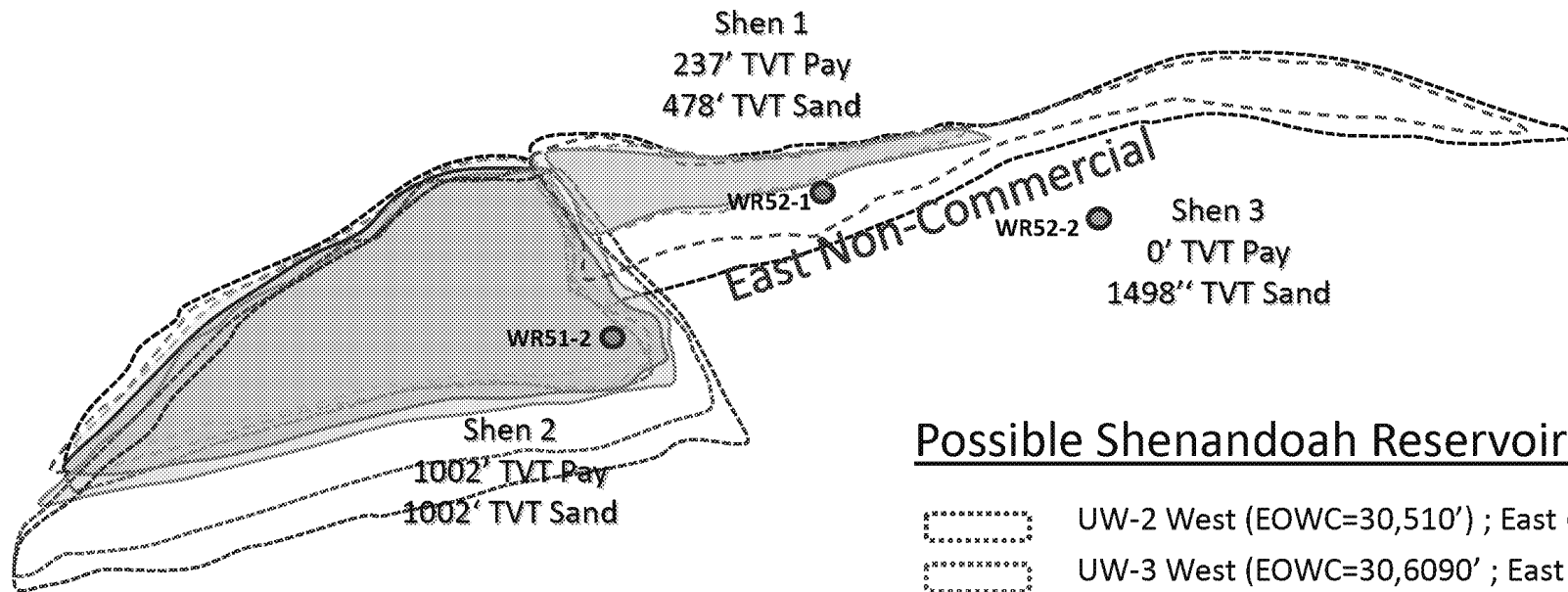
	UW2	UW3	LWA	LWB	LWC	LWD	LWE
HKW Shen 1	NA	NA	28,252	28,459	28,803	NA	NA
LKO Shen 1	NA	NA	28,252	NA	28,803	29,261	29506
Proj. O/W Shen 1	NA	NA	28,490	NA	28,735	29,600	30400
Delta Shen 3/Shen 1	NA	NA	3,001	NA	3,337	2,599	2,023
LKO Shen 2	29,405	29,832	30,127	30,318	30,127	30,824	31031
Proj. O/W Shen 2	30,600	30,700	30,680	30,680	30,760	31,450	31900
HKW Shen 3	30,736	30,981	31,333	31,647	32,170	32,199	32423
Delta Shen 3/Shen 2	136	281	653	967	1,410	749	523



Shenandoah Reservoir Outlines

P99 & P90 Based on Expl Post-Shen-3 Maps

MDT EOWCs from Interpretation 2



	Min Area (Acres)	Avg. Area (Acres)	Max Area (Acres)
West EOWC	1036 (LWC)	1396	2048 (UW2)
East EOWC	0	276	1058 (LWE)

Possible Shenandoah Reservoir Outlines

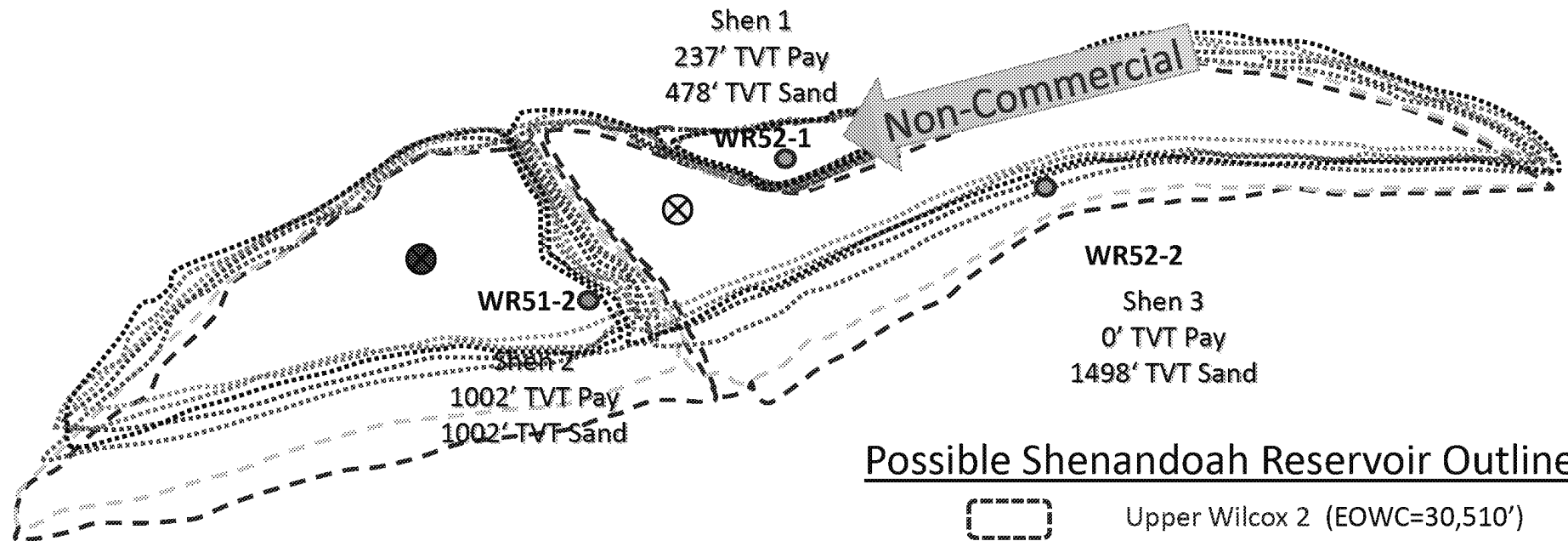
	UW-2 West (EOWC=30,510') ; East (?)
	UW-3 West (EOWC=30,6090' ; East (?)
	LW-A West (EOWC=30,690') ; East (EOWC =28,252')
	LW-B West (EOWC=30,800') ; East = Wet
	LW-C West (EOWC=30,800') ; East (EOWC=28,803')
	LW-D (EOWC=31,400') ; East (EOWC=29,600')
	LW-E (EOWC=31,850') ; East (EOWC=30,400')

	Min Area (Acres)	Avg. Area (Acres)	Max Area (Acres)
West LKO	853 (LWE)	1031	1289 (LWA)
East LKO	0	29	98 (LWA)

Shenandoah Possible Resource

P10 – P1 Based on Expl Post-Shen-3 Maps

MDT EOWCs from Interpretation 1



Possible Shenandoah Reservoir Outlines

	Upper Wilcox 2 (EOWC=30,510')
	Upper Wilcox 3 (EOWC=30,690')
	Lower Wilcox A (EOWC=30,690')
	Lower Wilcox B (EOWC=30,800')
	Lower Wilcox C (EOWC=30,800')
	Lower Wilcox D (EOWC=31,400')
	Lower Wilcox E (EOWC=31,850')

	Min Area (Acres)	Avg. Area (Acres)	Max Area (Acres)
West EOWC	1036 (LWC)	1396	2048 (UW2)
East EOWC	1322 (LWC)	1629	1924 (UW2)
Shen 1	0	56	115 (LWE)
Total	2358	3025	3972



MMRA Incorporating Both MDT Interpretations

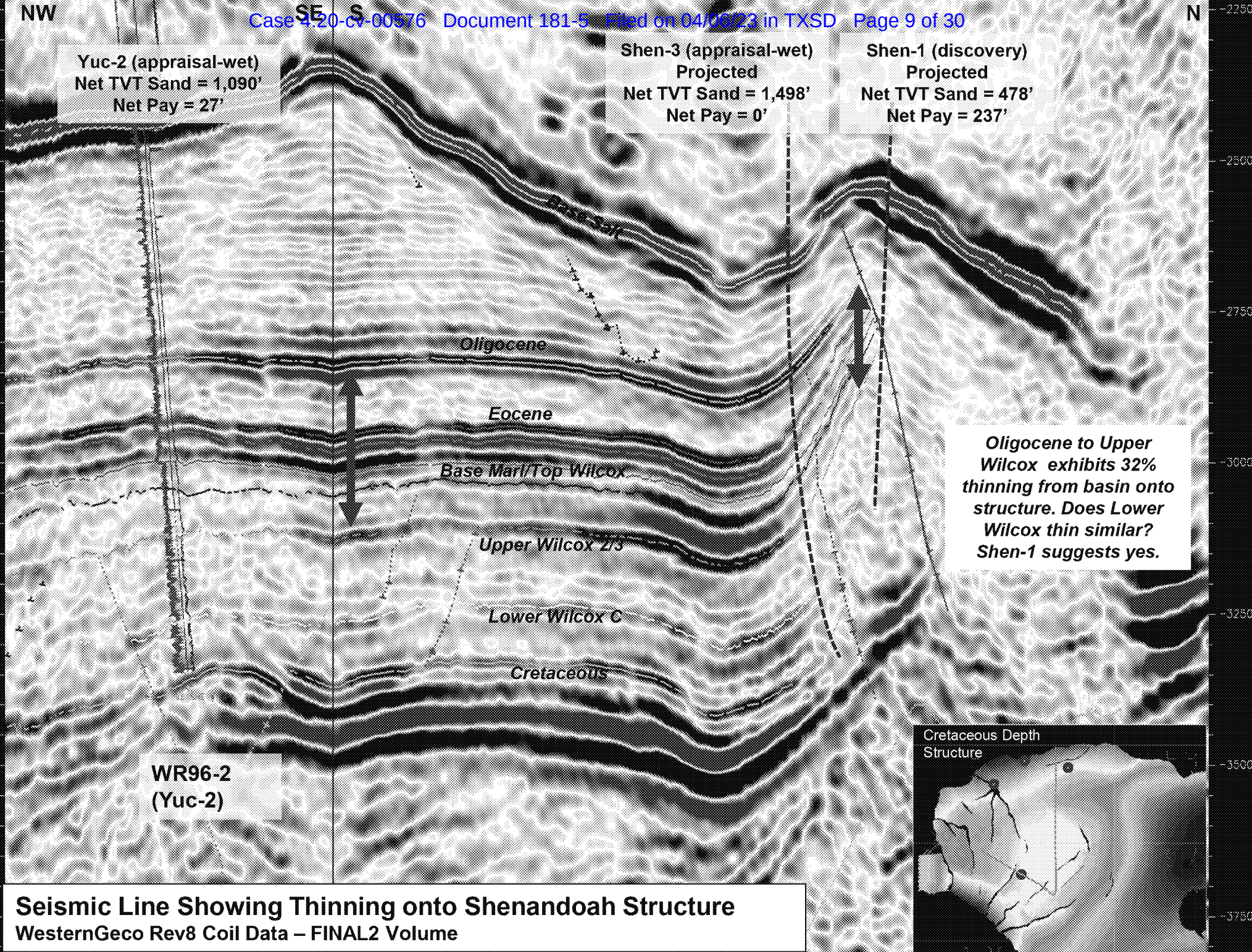
Assumes Thinning on Structure (Development View)

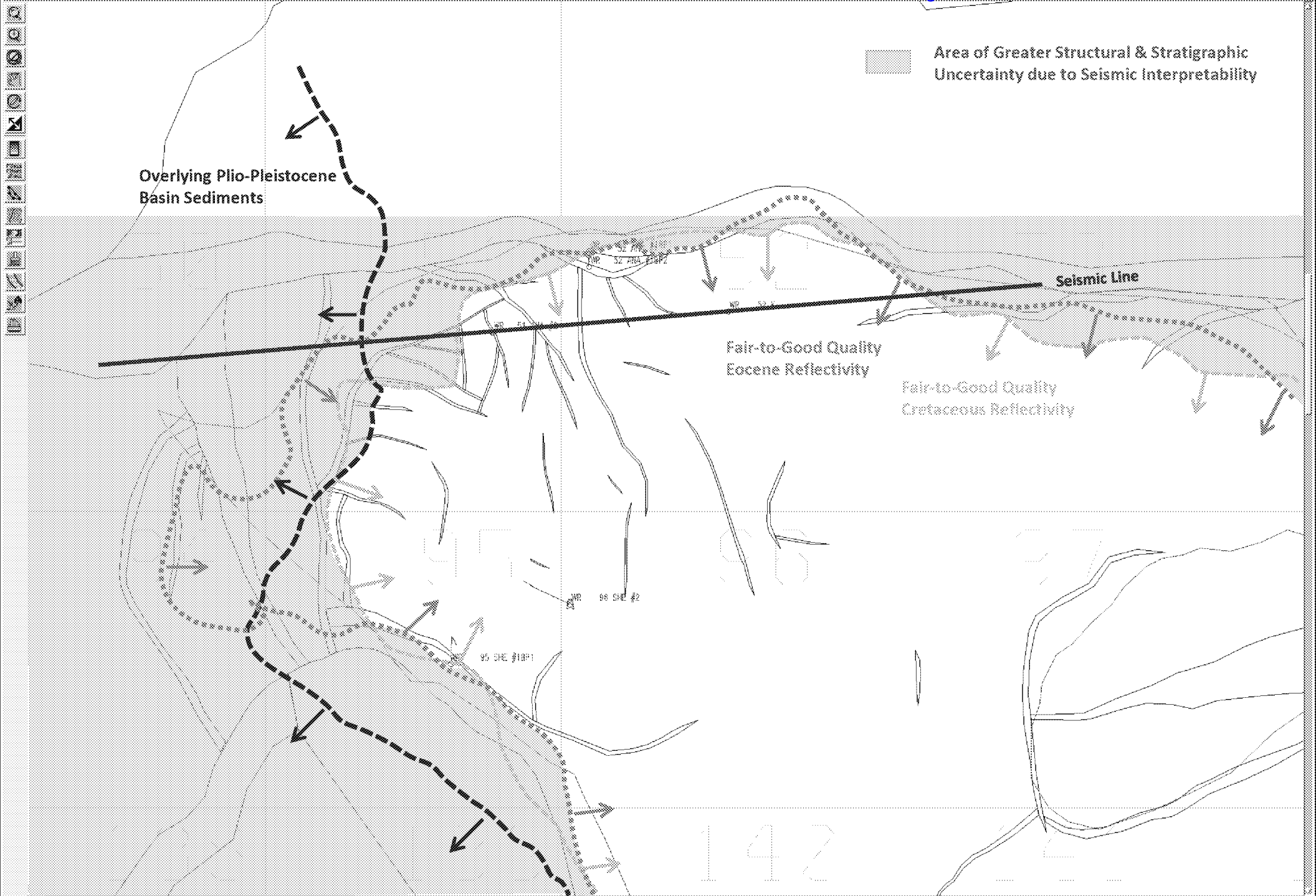
	Area (Acres)	Net Pay (feet)	RF (%)	OIP (MMBO)	EUR (MMBOE)
P99	1,238	377	11	537	113
P90	1,600	500	15	823	192
P50	2,191	707	22	1,379	358
P10	3,000	1,000	30	2,348	671
P01	3,876	1,327	37	3,518	1049

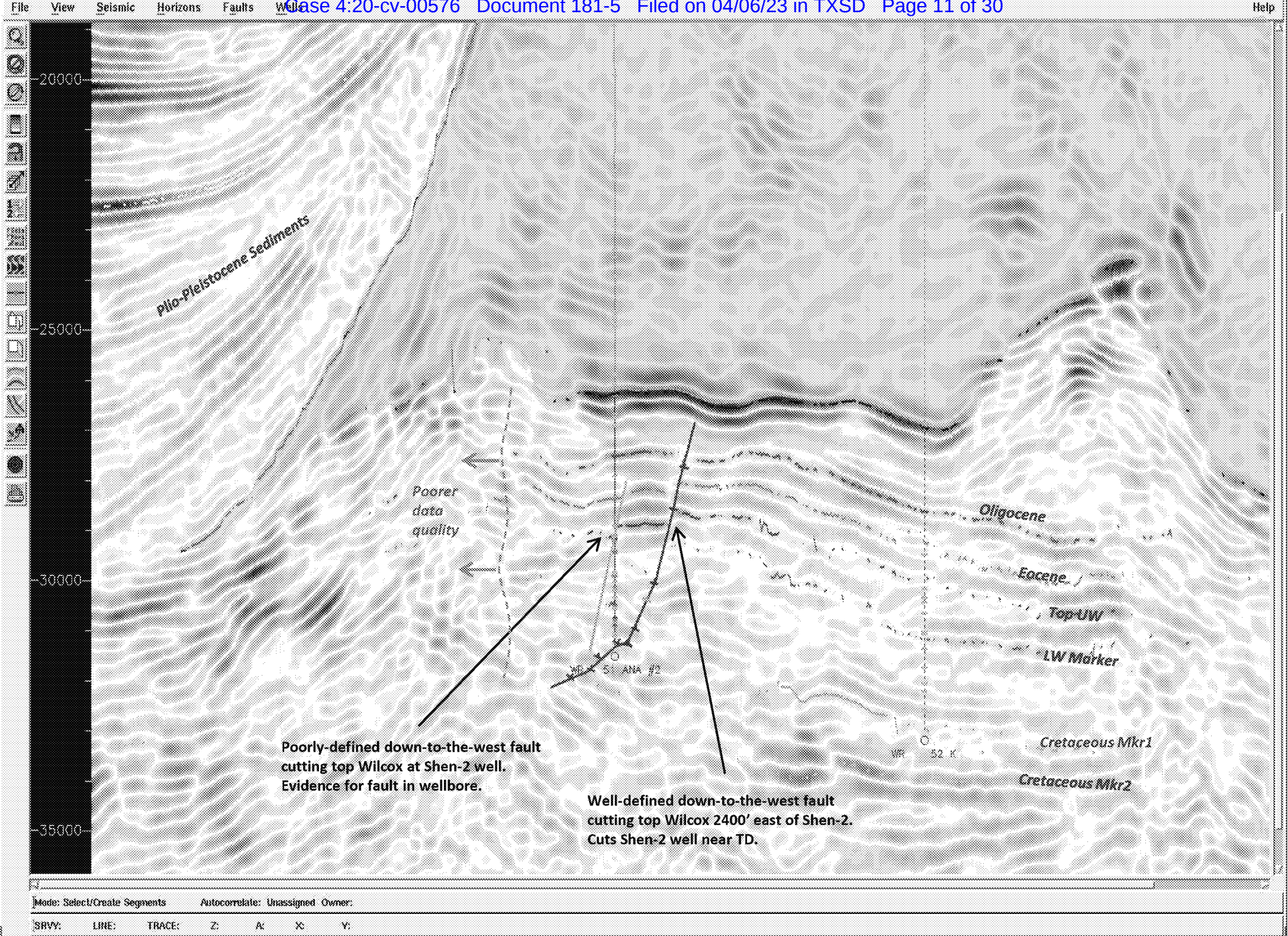
Mapped
Deterministic
OIP (BB)
* High Side as Net
Pay Assumed a
Constant Thick Sand

Interpretation #2
(West Only)
LKO = 1.1 BBO
EOWC = 1.6 BBO

Interpretation #1
(West & East)
LKO = 2.5 BBO
EOWC = 3.3 BBO









ECONOMIC CASE METHODOLOGY



Invest Pricing 100 MBOPD Spar Thresholds

Simulation Current	Original In Place		Prospective Undiscovered Recoverable Resources				Total Geologic Pre-Drill	Above Commercial Threshold (MCFS= 227.00 MMBO Tot HC Oil equiv)	Above Economic Threshold (MEFS= 422.00 MMBO Tot HC Oil equiv)
	Oil	Raw Gas	Liquids		Sales Gas				
			Oil	Total Cond	Non- Assoc	Soln			
MMBO	BCF	MMBO	MMBO	BCF	BCF	MMBOE	MMBOE	MMBOE	
P99	537.49	0.00	92.56	0.00	0.00	110.81	112.76	230.71	424.73
P90	823.38	0.00	159.26	0.00	0.00	187.80	192.08	259.87	443.62
Mode	1122.10	0.00	250.31	0.00	0.00	239.52	299.31	239.45	430.24
P50	1378.78	0.00	298.33	0.00	0.00	351.44	357.64	403.70	559.48
Mean (P99- >P01)	1492.71	0.00	331.90	0.00	0.00	389.91	396.92	441.32	591.86
P10	2347.59	0.00	561.55	0.00	0.00	661.10	670.83	708.86	837.69
P01	3517.93	0.00	884.97	0.00	0.00	1015.06	1048.91	1067.20	1202.20
Current settings... Estimating method: VOLUMETRIC (Area X Net Pay X HC Yield) Intermediate Simulation: 5000 Iterations Resources Simulation: 5000 Iterations Truncations: Input= 0.00/1.00 Output= 0.00/1.00 Area-Net Pay Correlation = 0%							Pg- Chance of Geologic Success (>=Ab Min resource)	Pc- Chance of Commercial Success (>=MCFS)	Pe- Chance of Economic Success (>=MEFS)
Chance of Success >>									
								82.2%	37.4%

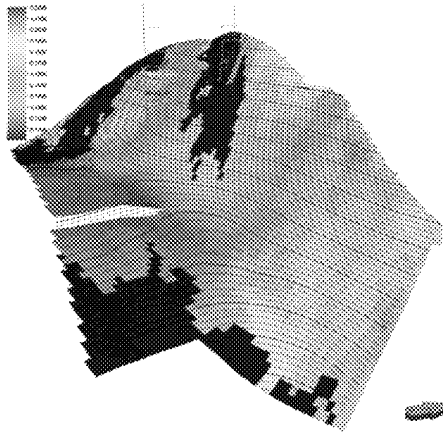
Full Field Success

Fail Early
<MEFS PHASE 1Fail Late
<MEFS PHASE 2

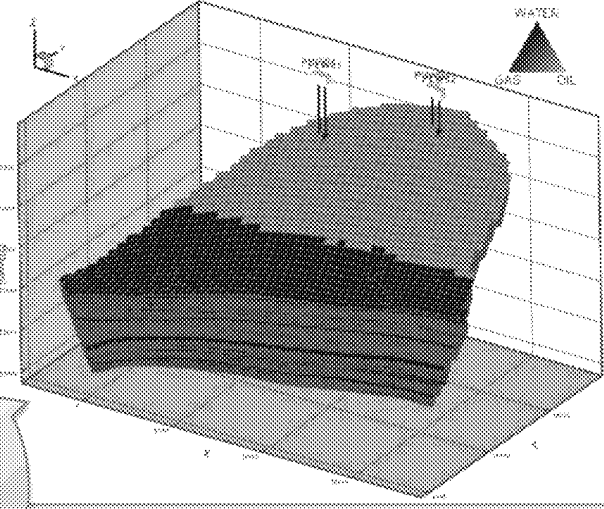
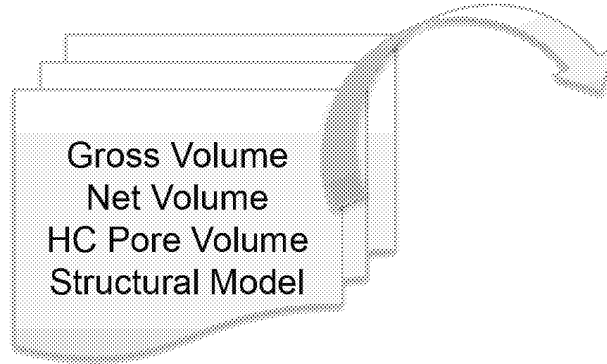


Develop Most Likely Model

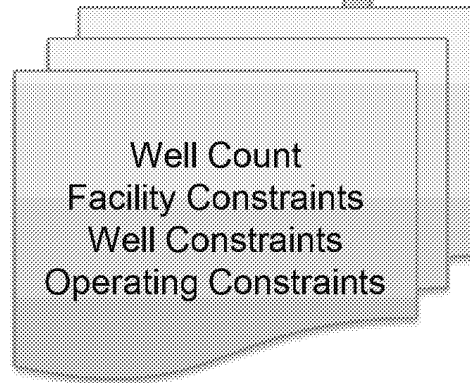
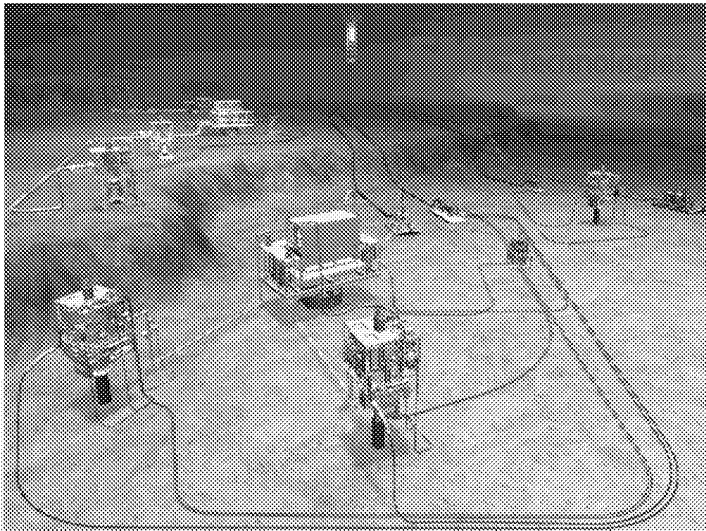
Simulation Model Phase 1: West



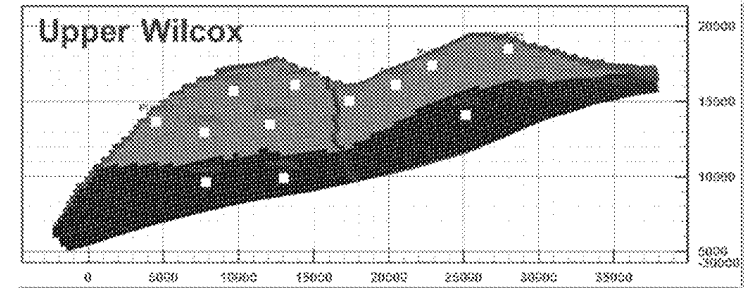
Geo-Model



Field Development Model



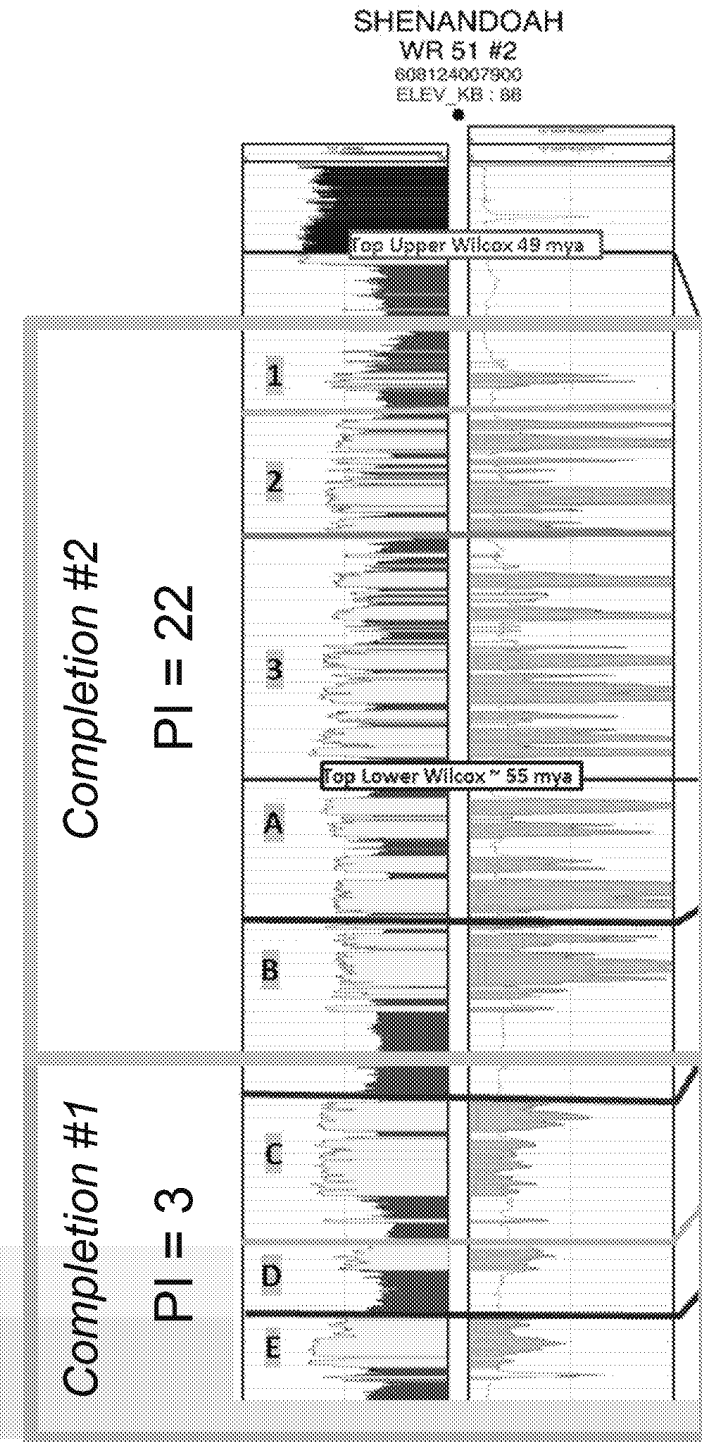
Simulation Model Full Field: Injection Case



Purpose: Capture Impact of Timing
and Operational Constraints
Update Input as New Knowledge is
Acquired

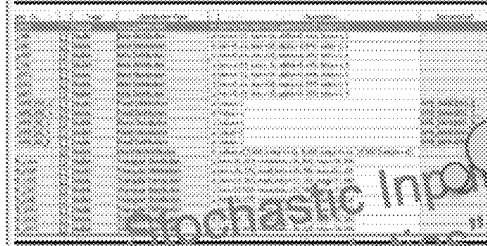
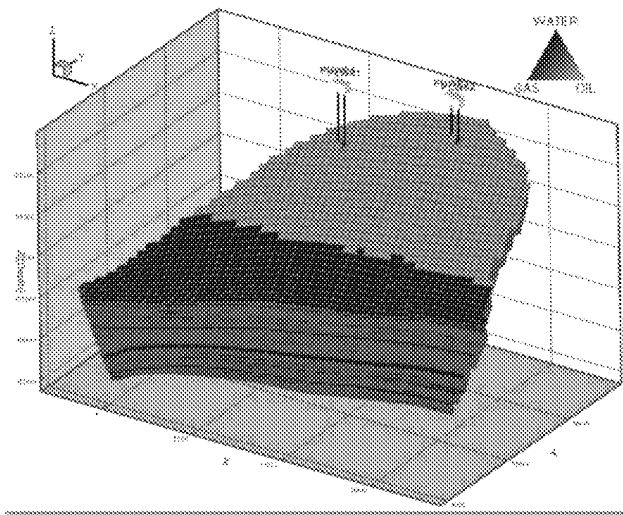
Phase 1: Wet Tree Constraints

- **Facility: 100 MBOPD Spar**
 - Capacity: 100 MBLPD & 120 MMCFD
- **Well Count (4):**
 - Two Wells: LWC, LWD and LWE
 - Two Wells: All UW + LWA & LWB
- **Well Constraints**
 - 15,000 BLPD
 - 2,000 Drawdown
- **30 Year Evaluation Life**





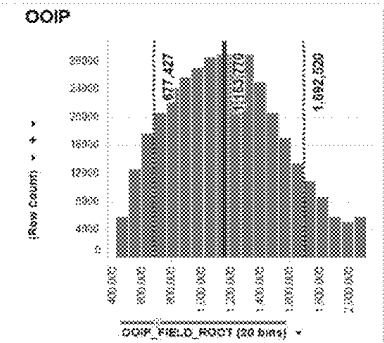
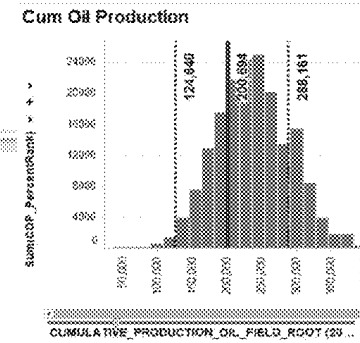
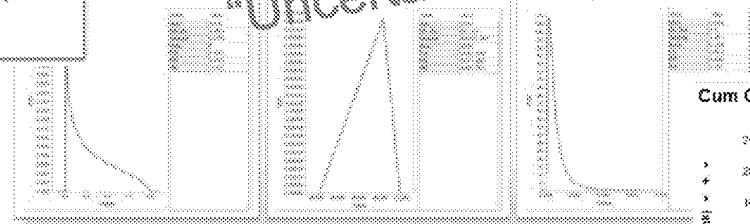
Develop Stochastic Model



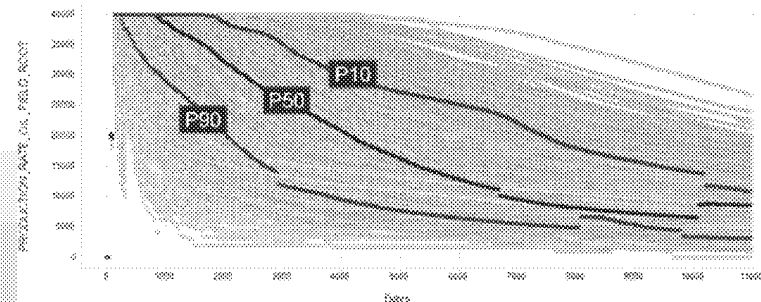
Aquifer Size:
Size Distribution

Barrier Transmissibility:
Lognormal Distribution

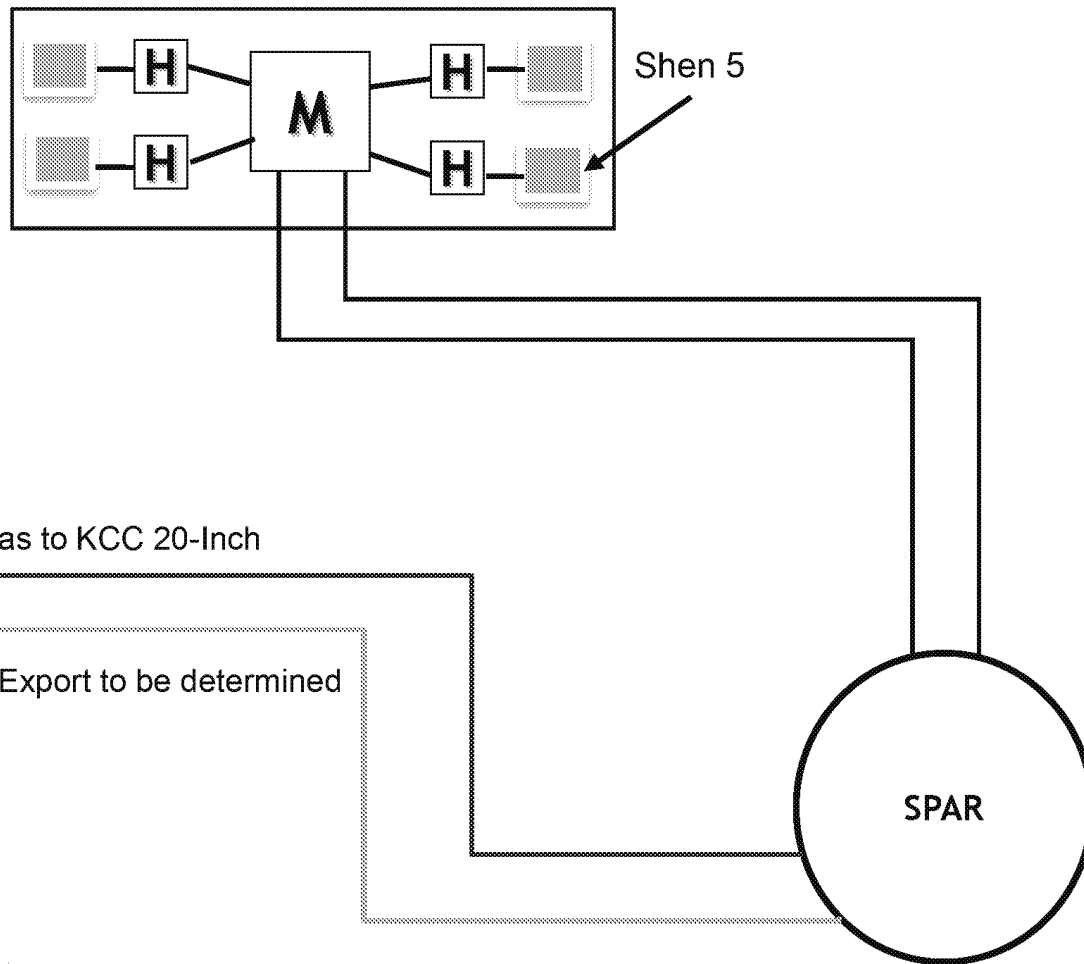
Abandonment
Pressure
Aquifer Size
Connectivity
OWCs




Purpose: Capture Impact of “Static”
& “Dynamic” Uncertainty in the
MEFS Evaluation
Update Input as New Knowledge is
Acquired



Phase 1: Wet Tree 100 MBOPD Spar



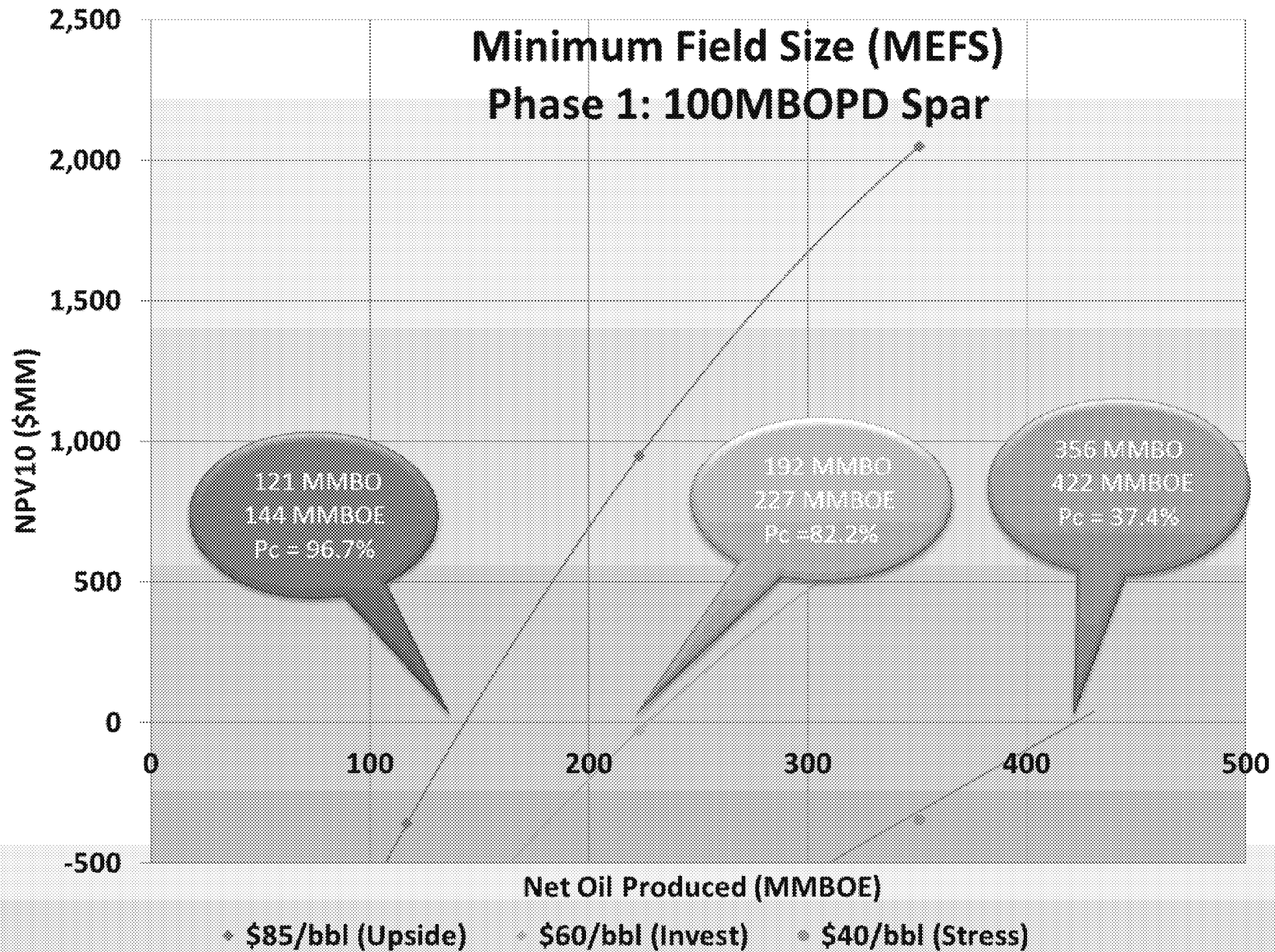
 Production Wells – 4 Initial Producers

Cost Category	Total Cost (\$MM)
Appraisal	\$236
Export	\$140
IPT/20A	\$185
Facility	\$1,304
Platform Rig	\$0
Subsea/Risers	\$675
Drilling	\$548
Completion	\$690
Total Cost	\$3,778
Max Capacity (BOEPD)	144,000
Expected Utilization	25% - 50 %

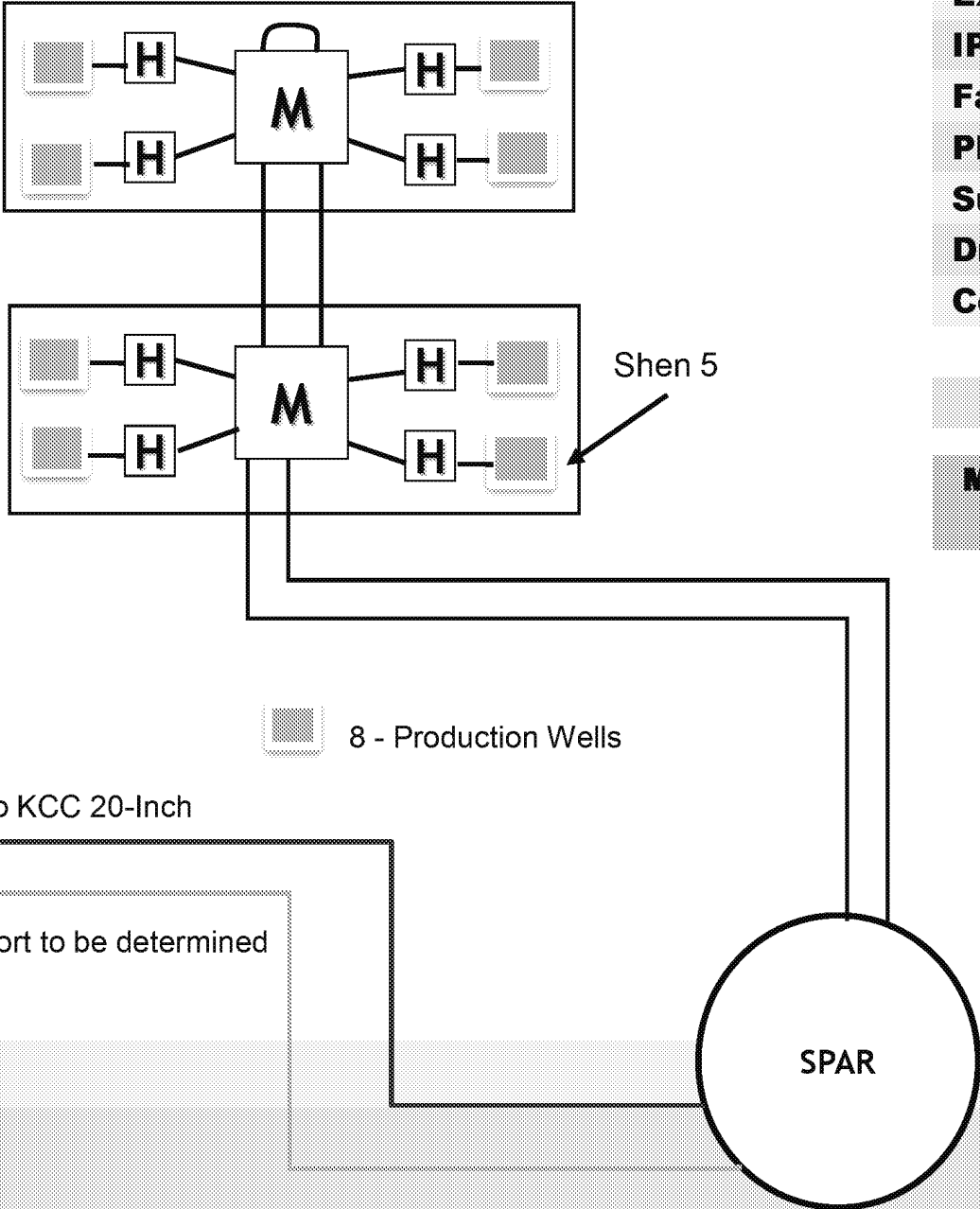
Well Constraint: 15 KBLPD



MEFS to Sanction: Phase 1 @ 100%WI



Phase 2: Wet Tree 100 MBOPD Spar

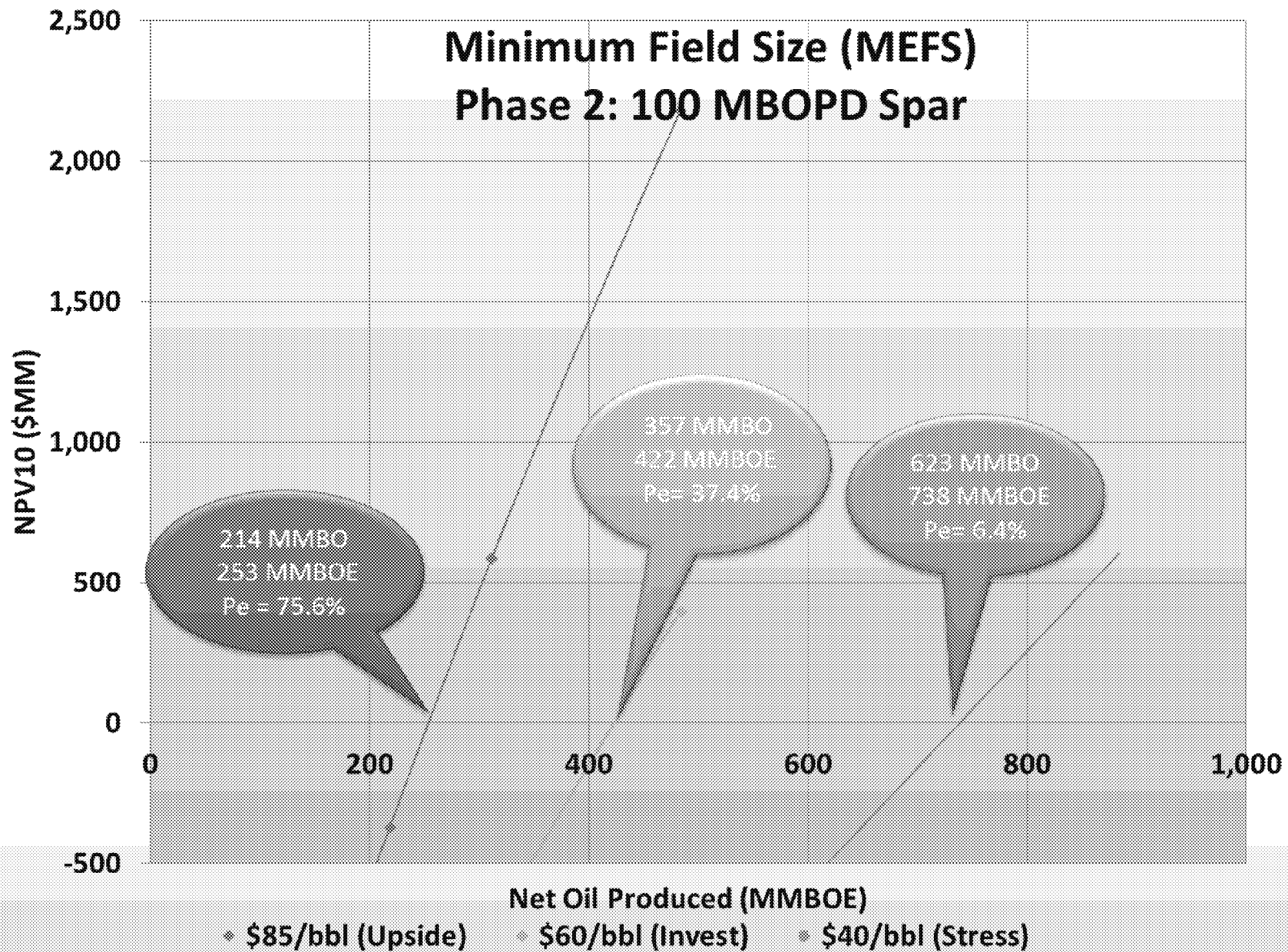


Cost Category	Total Cost	Delta Cost
	(\$MM)	(\$MM)
Appraisal	\$236	\$0
Export	\$140	\$0
IPT/20A	\$185	\$0
Facility	\$1,304	\$0
Platform Rig	\$0	\$0
Subsea/Risers	\$1,239	\$564
Drilling	\$1,309	\$761
Completion	\$1,379	\$690
Total Cost	\$5,793	\$2,015
Max Capacity (BOEPD)	144,000	0
Expected Utilization	40% - 100%	

Well Constraint: 15 KBLPD



MEFS to Sanction: Phase 2 @ 100%WI



Invest Pricing 100 MBOPD Spar Thresholds



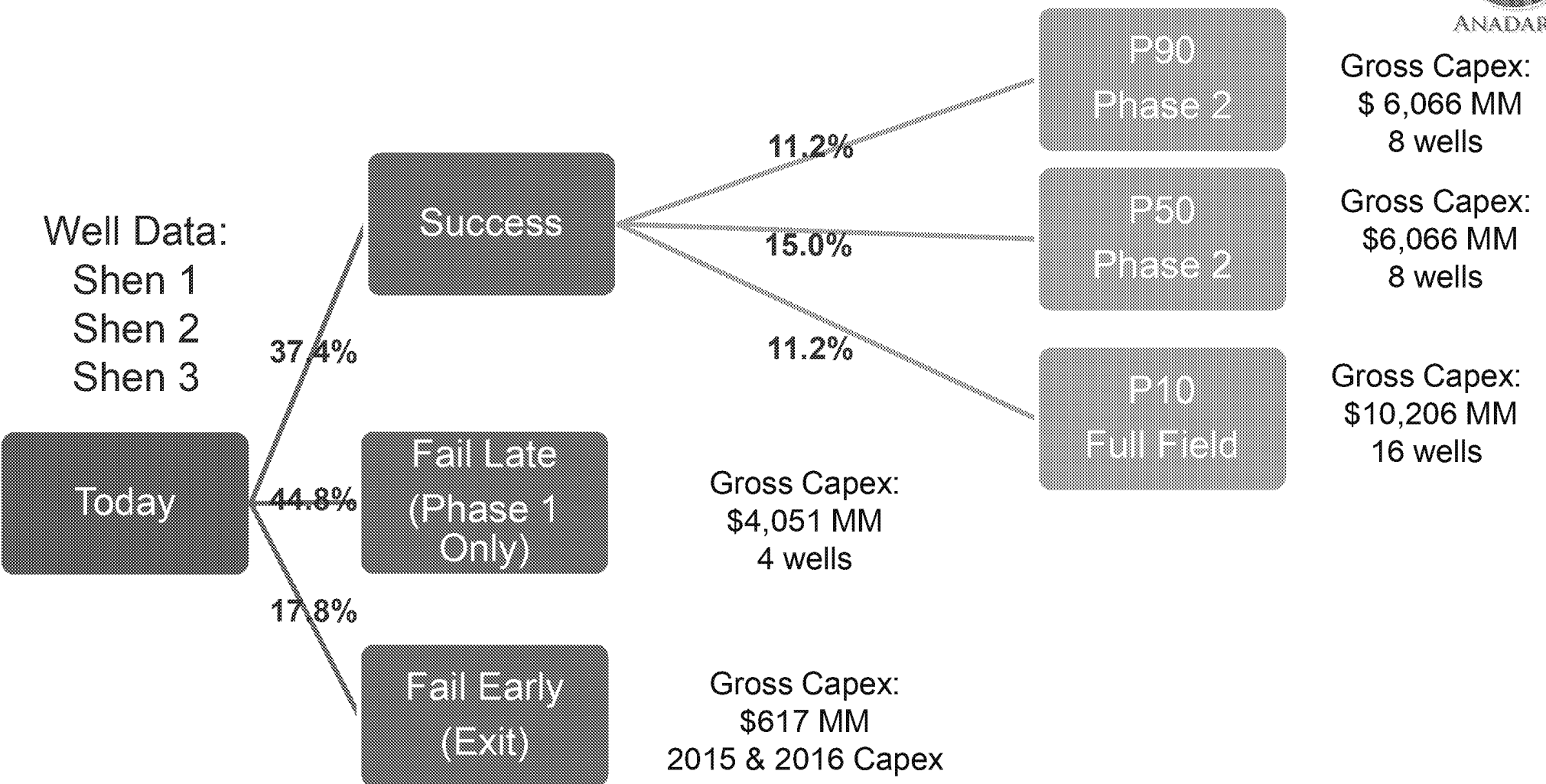
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	Oil	Raw Gas	Liquids		Sales Gas				
			Oil	Total Cond	Non- Assoc	Soln			
MMBO	BCF	MMBO	MMBO	BCF	BCF	MMBOE	MMBOE	MMBOE	
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Chance of Success >>									
								82.2%	37.4%

Full Field Success

Fail Early
<MEFS PHASE 1Fail Late
<MEFS PHASE 2



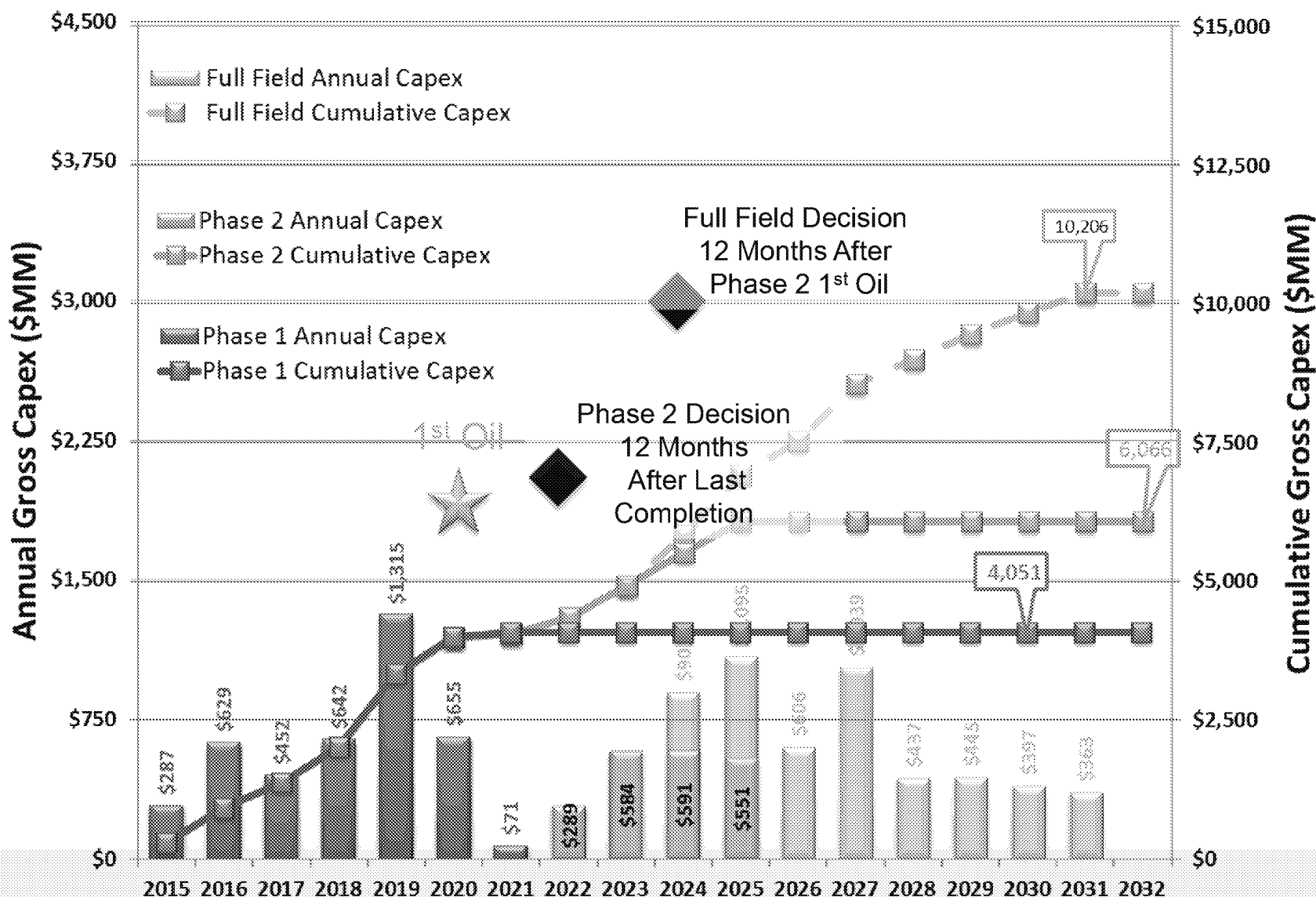
Decision Tree (100 MPOD Spar No Injection)



Post:
Shen 4
Shen 5



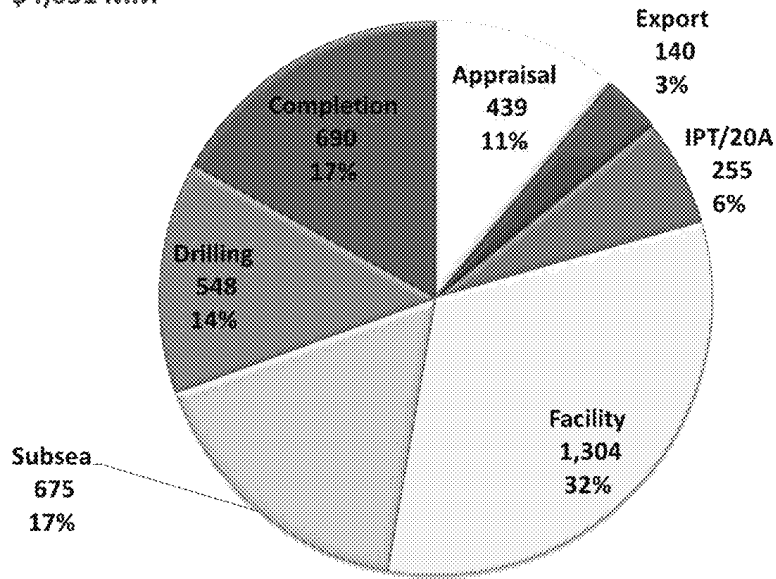
100 MBOPD Spar Capital Forecast (No Injection Case)



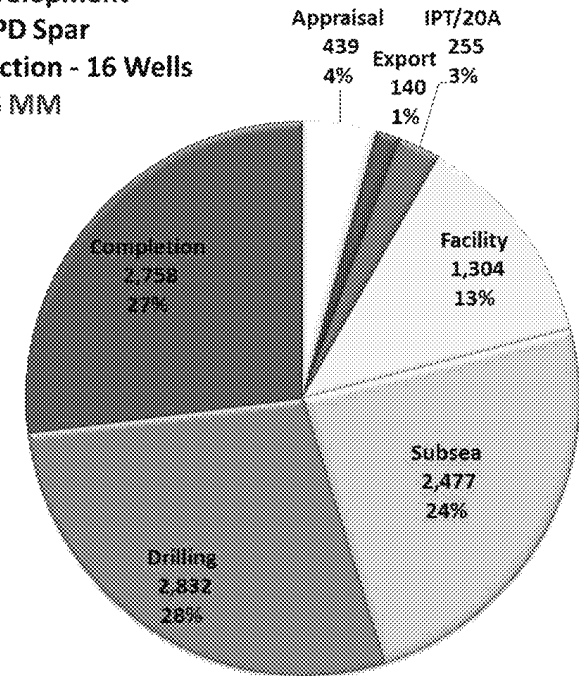


100 MBOPD Spar Capital Split (No Injection)

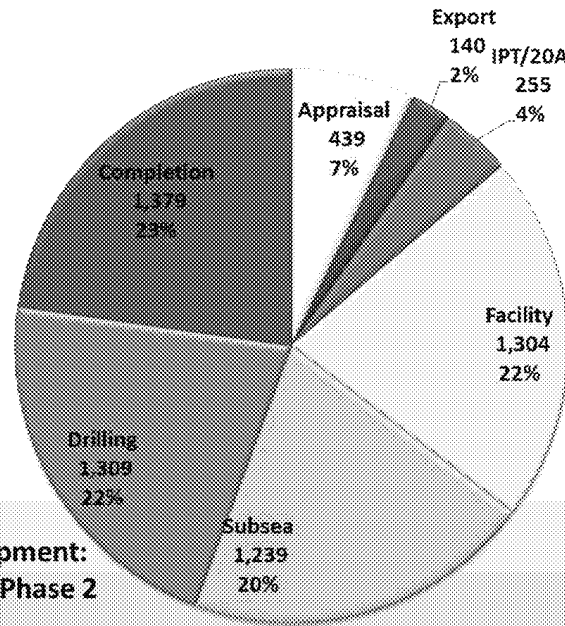
Wet Tree Development:
100 MBOPD Spar Phase 1
4 Wells
\$4,051 MM



Wet Tree Development
100 MBOPD Spar
Full Field - No Injection - 16 Wells
\$10,206 MM

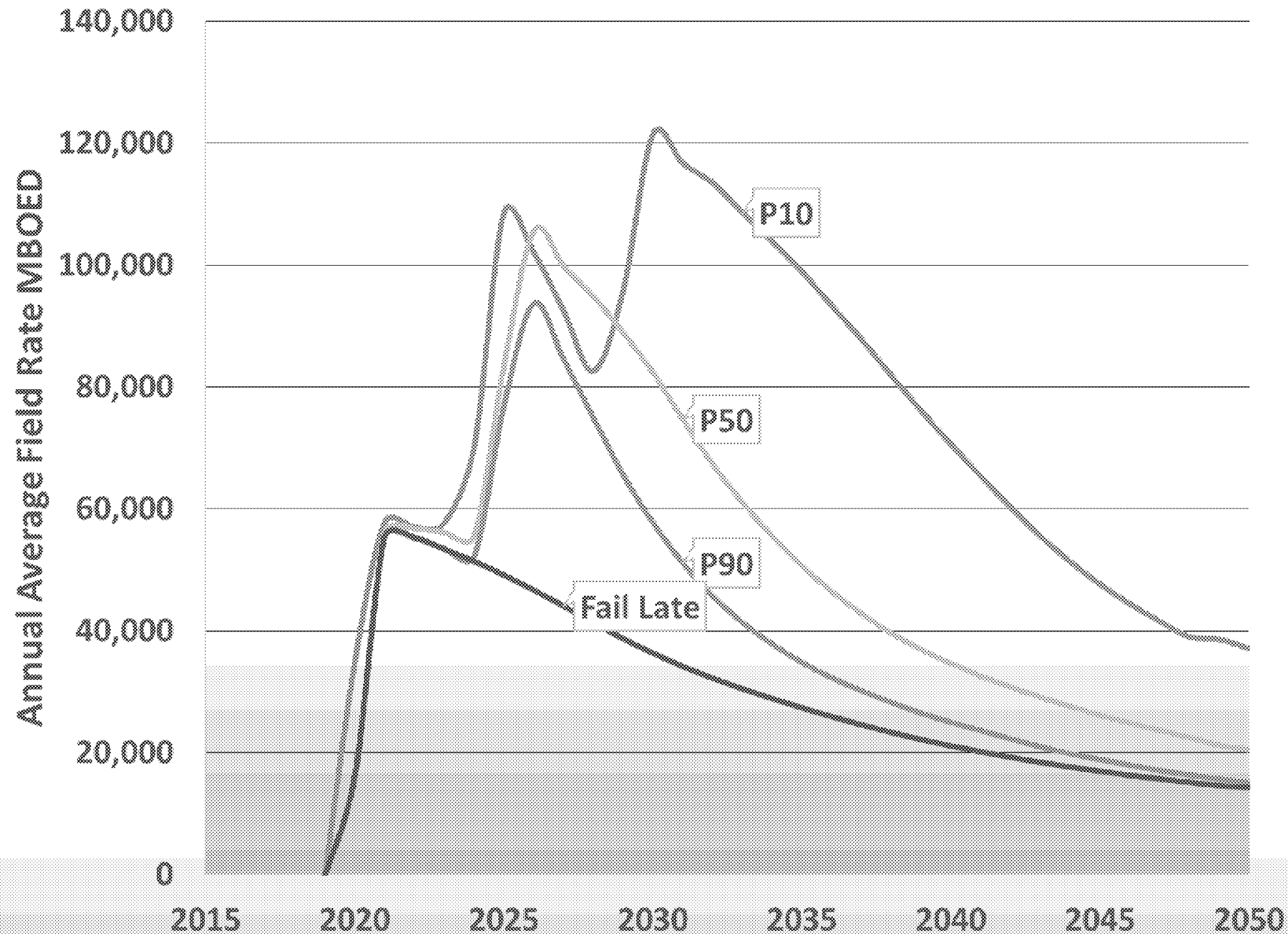


Wet Tree Development:
100 MBOPD Spar Phase 2
8 Wells
\$6,066 MM





Production Profiles





Economic Summary (30% WI @ Invest)

Case	NPV10 (\$MM)	ROR (%)	PIR10 (\$/\$)	F&D (\$/BOE)	LOE (\$/BOE)	EUR (MMBOE)	Capital (\$B)
P10	272	13	0.18	14.20	5.49	216	3.0
P50	242	13	0.21	12.54	4.74	145	1.8
P90	68	11	0.06	15.99	5.85	114	1.8
Fail Late	26	11	0.03	14.16	4.99	86	1.2
Fail Early	-109		-0.65				0.2
Mean Economics @ Invest (\$60/bbl)							
Risked	66	11	0.08	14.39	5.17	97	1.4
Unrisked	199	13	0.16	13.97	5.29	157	2.2

▪ Key to improving economics in this pricing environment:

- Updating same evaluation as new information or data is acquired
- Phasing to reduce uncertainties and minimize risk
- Reducing well count
- Increasing individual well rates (LW C / LWD / LWE)
- Reducing D/C&E costs
- Resource size



SENSITIVITIES



More Aggressive MMRA Resource Cases

Limited Thinning Case (Exploration View)

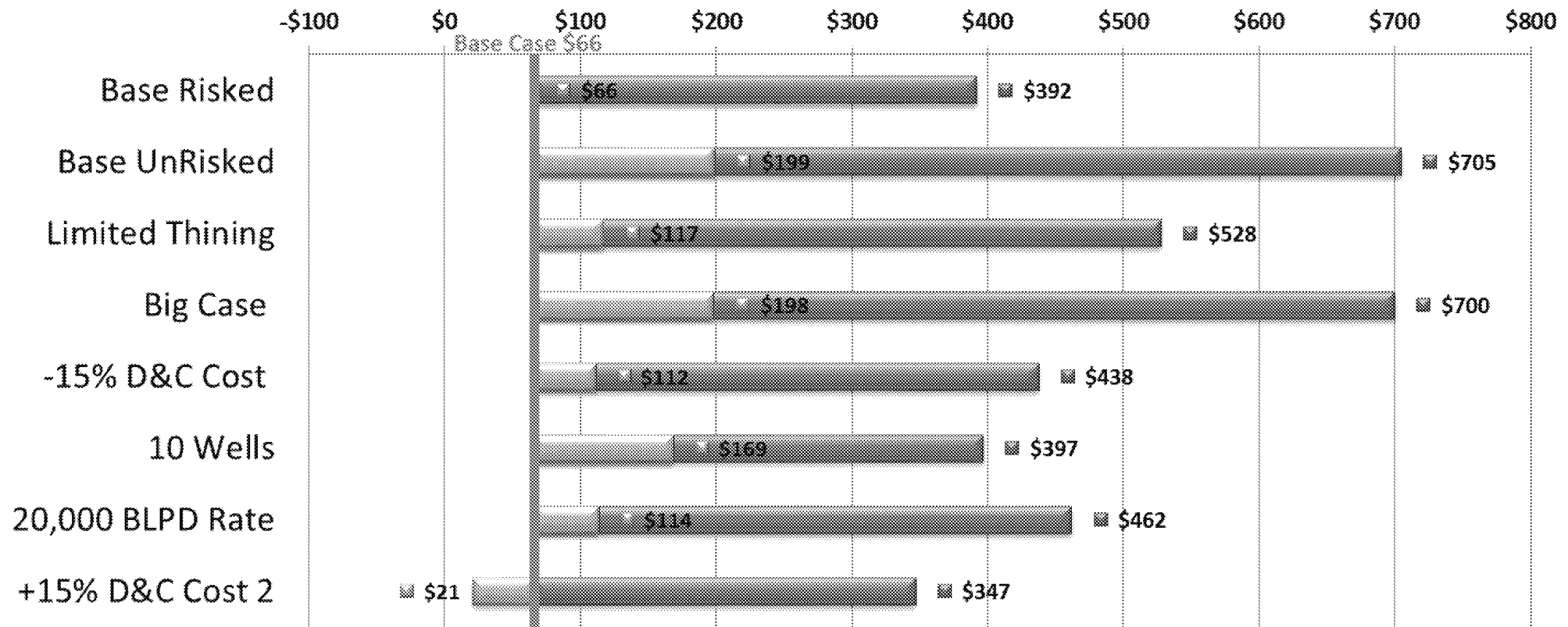
	Area (Acres)	Net Pay (feet)	RF (%)	OIP (MMBO)	EUR (MMBOE)
P90	1,600	800	15	1,166	269
P50	2,191	894	22	1,755	487
P10	3,000	1,000	30	2,661	765

Big Case (Exploration View)

	Area (Acres)	Net Pay (feet)	RF (%)	OIP (MMBO)	EUR (MMBOE)
P90	2,600	800	15	1,769	395
P50	3,017	894	22	2,412	625
P10	3,500	1,000	30	3,307	977



Tornado Chart (NPV 10 \$MM)

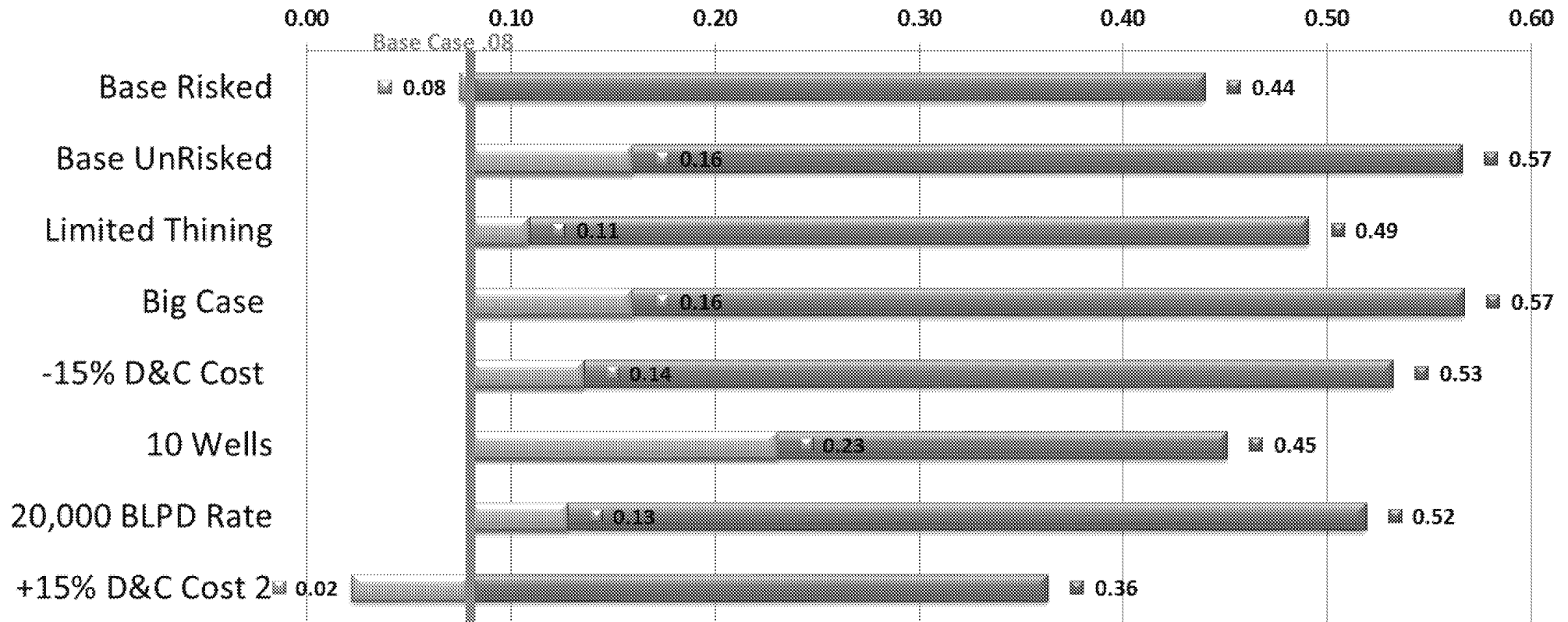


Wet Tree - 100 MBOPD Spar - Full Field (16 wells) - No Injection
WI = 30% ; Invest Pricing

■ Upside (\$85/bbl) ■ Invest (\$60/bbl)



Tornado Chart (PIR10 \$/\$)



Wet Tree - 100 MBOPD Spar - Full Field (16 wells) - No Injection

WI = 30% ; Invest Pricing

■ Upside (\$85/bbl) ■ Invest (\$60/bbl)